Installation Note for Fan Tray Assemblies in Catalyst 4500 Series Switches

Fan Assembly Overview

Note For complete environmental specifications, including airflow requirements, refer to Appendix A, "Specifications," in the *Catalyst 4500 Series Installation Guide*. The guide is available online at http://www.cisco.com/en/US/docs/switches/lan/catalyst4500/hardware/installation/guide/78-14409-08/4500inst.html

The system fan assembly provides cooling air for the internal chassis components. The fan assembly is a tray of fans that you can insert and remove from the chassis while the system is on line. The Catalyst 4503 fan assembly has two fans, the Catalyst 4506 fan assembly has four fans, and the Catalyst 4507R fan assembly has six fans. The fans draw in fresh air from one side and exhaust air on the other side. Catalyst 4503 airflow is shown in Figure 1. Catalyst 4506 airflow is shown in Figure 2. Catalyst 4507R airflow is shown in Figure 3.

Caution You must install module filler plates on unused switching module slots to ensure proper airflow.

Caution Removing and replacing fan trays produced between September 2002 and November 2002 might require rebooting the switch in a Catalyst 4506 switch with a Supervisor Engine III or Supervisor Engine IV and in a Catalyst 4507R switch with Supervisor Engine IV. Starting in December 2002, Cisco added a white strip on the bottom of the fan tray label to identify improved fan trays that do not have this limitation.

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Figure 1 Catalyst 4503 Airflow

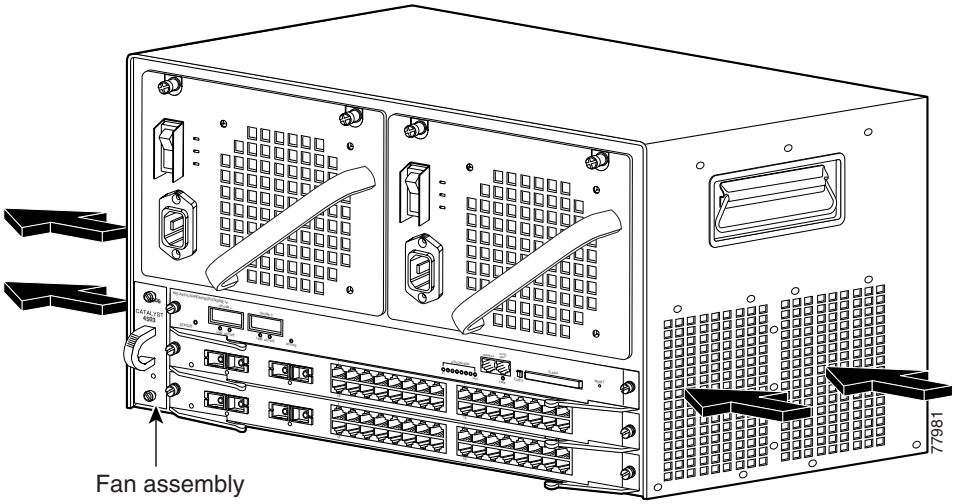


Figure 2 Catalyst 4506 Airflow

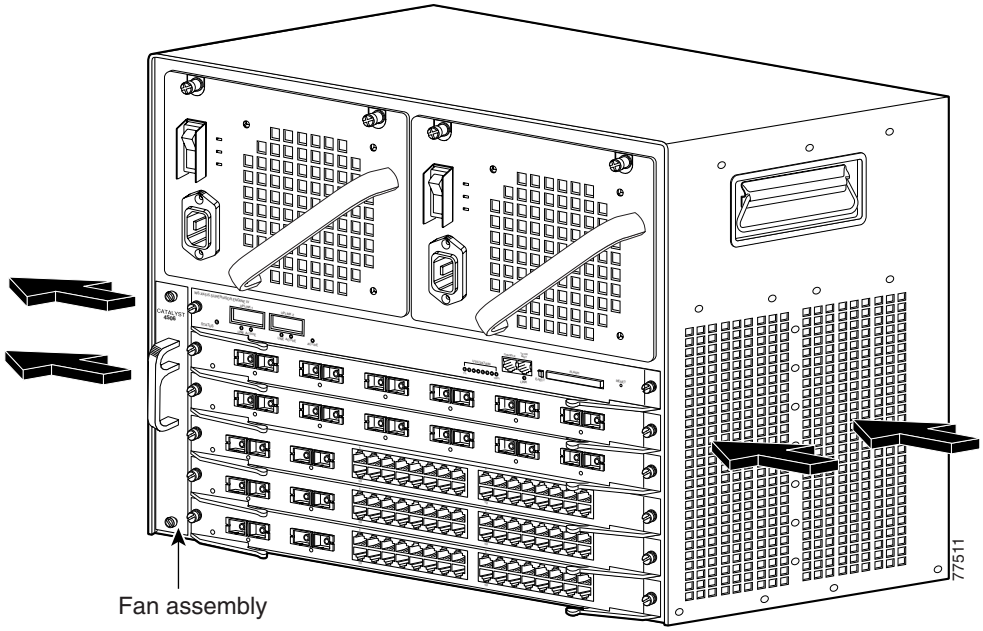
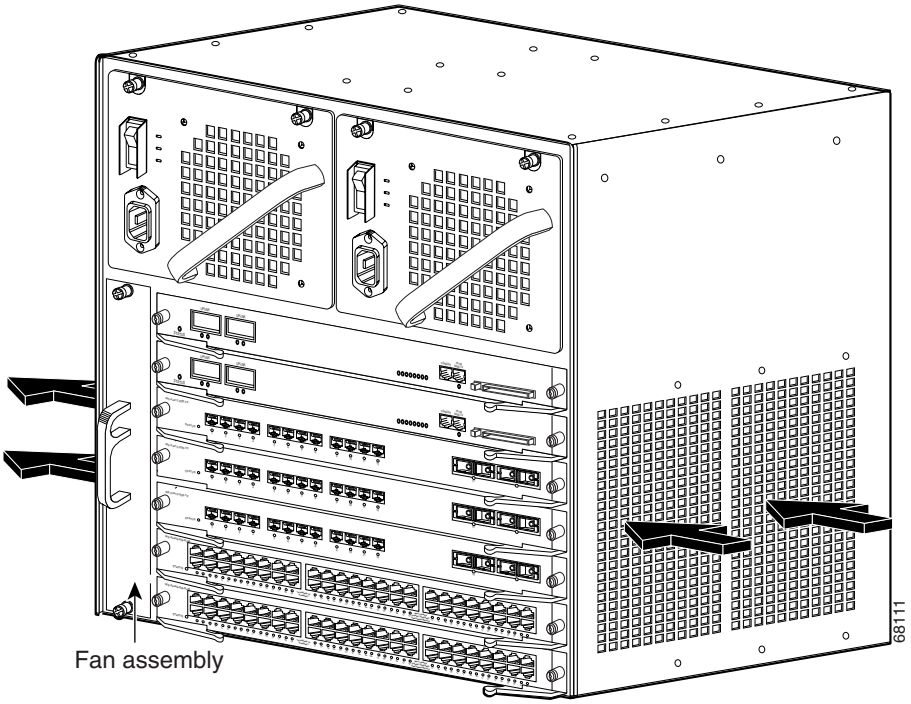


Figure 3 Catalyst 4507R Airflow



Removing and Replacing the Chassis Fan Assembly

This section describes how to remove and install the chassis fan assembly for the Catalyst 4500 series switches. See Figure 4 for the Catalyst 4503 system fan assembly, Figure 5 for the Catalyst 4506 system fan assembly, and Figure 6 for the Catalyst 4507R system fan assemblies.

Required Tools

You will need a Phillips screwdriver for the following two procedures.

Figure 4 Catalyst 4503 System Fan Assembly

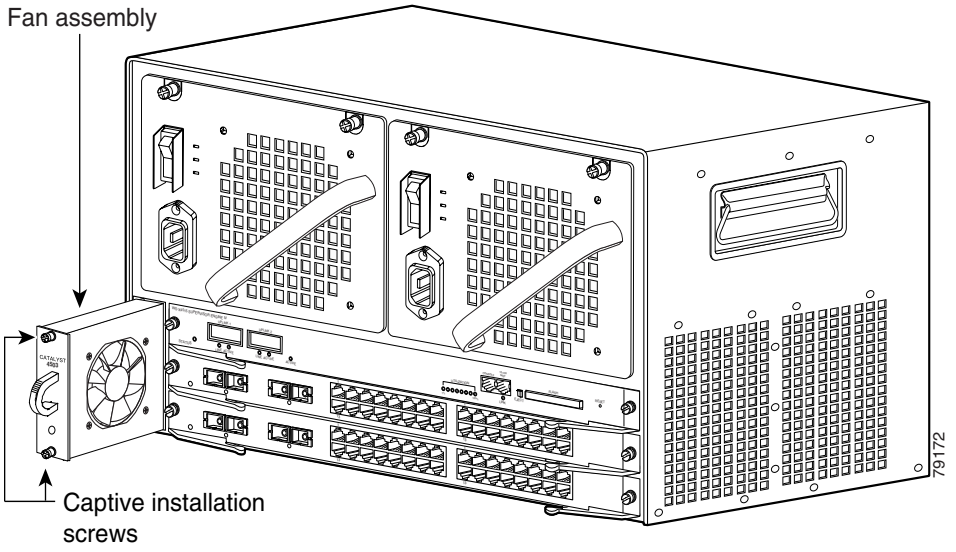


Figure 5 Catalyst 4506 System Fan Assembly

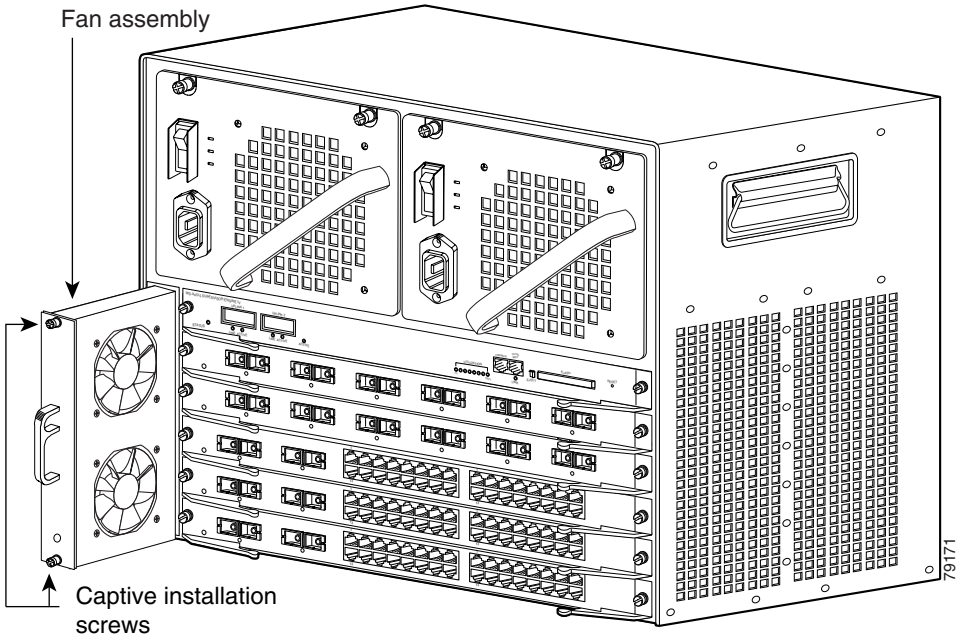
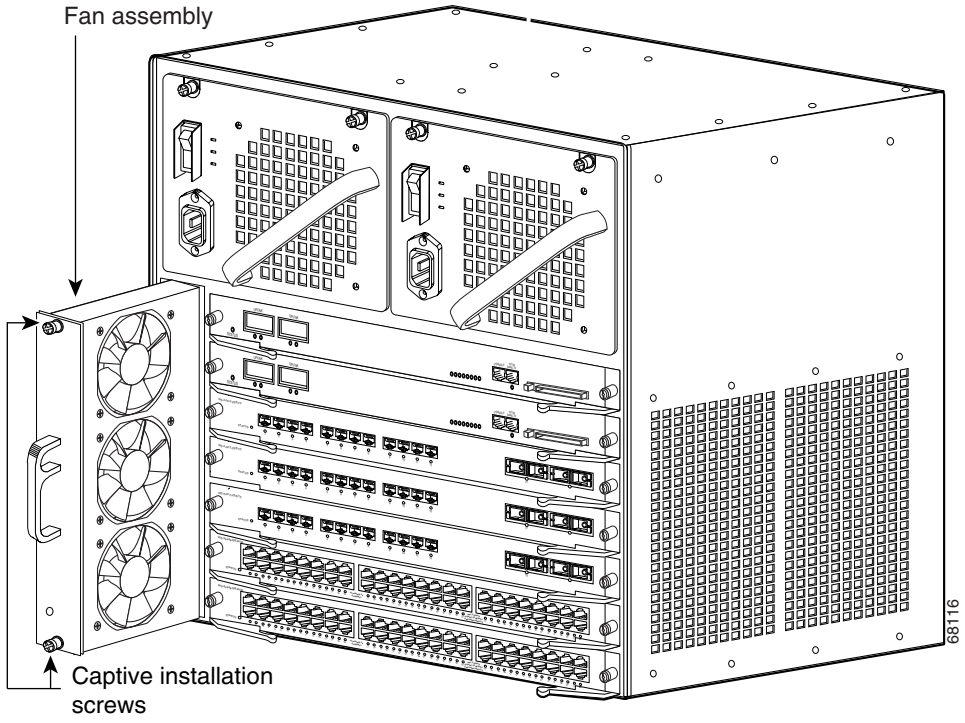


Figure 6 Catalyst 4507R System Fan Assembly



Removing the Fan Assembly

Caution When changing fan assemblies, try to keep changeover times to under a minute. Never operate the system for an extended period if the fan assembly is removed or if it is not functioning properly. An overtemperature condition can cause severe equipment damage or an unscheduled system shutdown.

Follow these steps to remove the existing chassis fan assembly:

Step 1 Loosen the two captive installation screws on the fan assembly by turning them counterclockwise.

Step 2 Grasp the fan assembly with both hands and pull it outward; wiggle it if necessary to unseat it from the backplane. Slide it out of the chassis and put it someplace where it will not be dropped or stepped on.

Warning **When removing the fan tray, keep your hands and fingers away from the spinning fan blades. Let the fan blades completely stop before you remove the fan tray.**

Waarschuwing **Houd tijdens het verwijderen van de ventilator de handen en vingers uit de buurt van de draaiende ventilatorschoepen. Laat de ventilatorschoepen volledig tot stilstand komen alvorens de ventilator te verwijderen.**

Varoitus **Pidä kädet ja sormet pois tuulettimen pyörivistä siivistä tuuletinalustaa poistaessasi. Anna tuulettimen siipien pysähtyä kokonaan ennen kuin irrotat tuuletinalustan.**

Attention **Lors du retrait du plateau du ventilateur, veillez à ce que vos mains et doigts restent à l'écart des pales en rotation du ventilateur. Attendez que les pales du ventilateur soient parvenues à une immobilité complète avant de retirer le plateau du ventilateur.**

Warnung **Beim Herausnehmen des Lüfterkastens Hände und Finger von den sich drehenden Gebläseflügeln fern halten. Vor Herausnehmen des Gebläsekastens warten, bis die Gebläseflügel völlig zum Stillstand gekommen sind.**

Avvertenza **Quando si toglie il vano della ventola, fare attenzione che le mani e le dita non vengano in contatto con la ventola in movimento. Attendere che la ventola si fermi completamente prima di togliere il vano.**

Advarsel **Når du fjerner viftedekselet, hold hender og fingre borte fra de roterende viftebladene. La viftebladene stanse helt før du fjerner viftedekselet.**

Aviso **Mantenha as suas mãos e dedos afastados das lâminas em movimento da ventoinha, ao retirar a respectiva bandeja. Deixe as lâminas da ventoinha parar completamente antes de retirar a bandeja.**

¡Advertencia! **Cuando quite la bandeja del abanico, mantenga las manos y los dedos alejados de las aspas en movimiento. Deje que las aspas se detengan completamente antes de quitar la bandeja del abanico.**

Varning! **Håll händer och fingrar borta från de roterande fläktbladen när du tar av fläktskyddet. Låt fläkten stanna helt innan du tar av fläktskyddet.**

Installing the Fan Assembly

Follow these steps to install the new fan assembly:

Step 1 Hold the fan assembly with the fans facing to the right.

Step 2 Place the fan assembly into the fan assembly bay so it rests on the chassis, and then lift the fan assembly up slightly, aligning the top and bottom guides.

Step 3 Slide the fan assembly into the chassis until the two captive installation screws make contact with the chassis.

Step 4 Using a screwdriver, tighten the two captive installation screws by turning them clockwise.

Verifying the Installation

Note To check the operation of the fans, you need to power up the chassis.

Follow these steps to verify that the new fan assembly was installed correctly:

Step 1 Listen for the fans; you should immediately hear them operating. If you do not hear them, ensure that the fan assembly is inserted completely in the chassis and that the faceplate is flush with the switch back panel.

Step 2 If after several attempts the fans do not operate, or if you experience trouble with the installation (for instance, if the captive installation screws do not align with the chassis holes), contact the Cisco Technical Assistance Center (TAC) for assistance.

Related Documentation

For other installation and configuration information, refer to this publication:

- *Catalyst 4500 Series Installation Guide*

Obtaining Documentation

These sections explain how to obtain documentation from Cisco Systems.

World Wide Web

You can access the most current Cisco documentation on the World Wide Web at this URL:

http://www.cisco.com

Translated documentation is available at this URL:

http://www.cisco.com/public/countries_languages.shtml

Documentation CD-ROM

Cisco documentation and additional literature are available in a Cisco Documentation CD-ROM package, which is shipped with your product. The Documentation CD-ROM is updated monthly and may be more current than printed documentation. The CD-ROM package is available as a single unit or through an annual subscription.

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You can order Cisco documentation in these ways:

- Registered Cisco.com users (Cisco direct customers) can order Cisco product documentation from the Networking Products MarketPlace:

  http://www.cisco.com/cgi-bin/order/order_root.pl

- Registered Cisco.com users can order the Documentation CD-ROM through the online Subscription Store:

  http://www.cisco.com/go/subscription

- Nonregistered Cisco.com users can order documentation through a local account representative by calling Cisco Systems Corporate Headquarters (California, U.S.A.) at 408 526-7208 or, elsewhere in North America, by calling 800 553-NETS (6387).

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170 West Tasman Drive
San Jose, CA 95134-9883

We appreciate your comments.

Obtaining Technical Assistance

Cisco provides Cisco.com as a starting point for all technical assistance. Customers and partners can obtain online documentation, troubleshooting tips, and sample configurations from online tools by using the Cisco Technical Assistance Center (TAC) Web Site. Cisco.com registered users have complete access to the technical support resources on the Cisco TAC Web Site.

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Technical Assistance Center

The Cisco Technical Assistance Center (TAC) is available to all customers who need technical assistance with a Cisco product, technology, or solution. Two levels of support are available: the Cisco TAC Web Site and the Cisco TAC Escalation Center.

Cisco TAC inquiries are categorized according to the urgency of the issue:

- Priority level 4 (P4)—You need information or assistance concerning Cisco product capabilities, product installation, or basic product configuration.
- Priority level 3 (P3)—Your network performance is degraded. Network functionality is noticeably impaired, but most business operations continue.
- Priority level 2 (P2)—Your production network is severely degraded, affecting significant aspects of business operations. No workaround is available.
- Priority level 1 (P1)—Your production network is down, and a critical impact to business operations will occur if service is not restored quickly. No workaround is available.

The Cisco TAC resource that you choose is based on the priority of the problem and the conditions of service contracts, when applicable.

Cisco TAC Web Site

You can use the Cisco TAC Web Site to resolve P3 and P4 issues yourself, saving both cost and time. The site provides around-the-clock access to online tools, knowledge bases, and software. To access the Cisco TAC Web Site, go to this URL:

http://www.cisco.com/tac

All customers, partners, and resellers who have a valid Cisco service contract have complete access to the technical support resources on the Cisco TAC Web Site. The Cisco TAC Web Site requires a Cisco.com login ID and password. If you have a valid service contract but do not have a login ID or password, go to this URL to register:

http://www.cisco.com/register/

If you are a Cisco.com registered user, and you cannot resolve your technical issues by using the Cisco TAC Web Site, you can open a case online by using the TAC Case Open tool at this URL:

http://www.cisco.com/tac/caseopen

If you have Internet access, we recommend that you open P3 and P4 cases through the Cisco TAC Web Site.

Cisco TAC Escalation Center

The Cisco TAC Escalation Center addresses priority level 1 or priority level 2 issues. These classifications are assigned when severe network degradation significantly impacts business operations. When you contact the TAC Escalation Center with a P1 or P2 problem, a Cisco TAC engineer automatically opens a case.

To obtain a directory of toll-free Cisco TAC telephone numbers for your country, go to this URL:

http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml

Before calling, please check with your network operations center to determine the level of Cisco support services to which your company is entitled: for example, SMARTnet, SMARTnet Onsite, or Network Supported Accounts (NSA). When you call the center, please have available your service agreement number and your product serial number.

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